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Loop 363/Spur 290 Improvements and Hike and Bike Trail Extensions

TIGER IV Capital Grant Application



City of Temple, TX

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The entire application and appendix materials, as well as additional information about the Temple Medical and Education District and City of Temple initiatives, are available online at the following link: <http://www.ci.temple.tx.us/index.aspx?nid=1278>

1 - PROJECT SUMMARY

Project Information

Type of Application:	Local Government
Application ID:	Awilliams51045
Project Type:	Road and Bridge
Secondary Project Type:	Bicycle and Pedestrian
Location of Project:	City of Temple, TX Start Latitude, Longitude: 31.08423, -97.34705 End Latitude, Longitude: 31.04833, -97.36239
Population Characteristics:	Urban
Total Project Cost:	\$14.23 million
TIGER IV Grant Funds Requested:	\$10.0 million
Non-Federal Match:	\$4.23 million
Construction Start:	2 nd Quarter 2013
Construction Completion:	2 nd Quarter 2015
DUNS Number:	139205756
CFDA Number:	20.933
CCR Number:	5J6V6

Table 1 – Project Information

Project Partners

The City of Temple is joined by its partner, the Texas Department of Transportation, as financial supporters of the proposed Loop 363/Spur 290 roadway and Hike/Bike Trail improvements. The following table briefly describes each entity:



City of Temple		<ul style="list-style-type: none">• Lead applicant with experience in roadway and trail installation, responsible for over 1,000 lane miles of streets, over 4,000 streetlights, numerous trails and miles of trails and sidewalks• Responsible entity for administering the grant, with knowledge of Federal reporting procedures• \$2.115 million contribution
Texas Department of Transportation		<ul style="list-style-type: none">• The state’s lead transportation agency is the co-applicant with immense experience associated with the construction and maintenance of the state’s immense highway system, the agency also oversees aviation, rail and public transportation systems• Responsible for assisting in overseeing the design and construction of the projects and providing technical assistance with traffic engineering disposition• \$2.115 million contribution
TOTAL PARTNER SUPPORT		\$4.23 MILLION

Table 2 – Partner Support

Grant Funds, Sources and Uses of Project Funds

The total cost of the proposed project is \$14.23 million. The amount of non-federal funds is secured through a resolution adopted by the City Council and committed by the Texas

Department of Transportation. The non-federal match equates to 29.7 percent of the project funds, in the amount of \$4.23 million. The amount requested under the TIGER IV Grant (70.3 percent) is \$10.0 million. Requested grant funds and sources are summarized in the following table:

FUNDING SOURCE		
Non-Federal (secured funds)	TIGER IV (requested)	Total
\$4.23 million (total) <ul style="list-style-type: none"> • \$2.115 million – City • \$2.115 million – TxDOT 	\$10.0 million	\$14.23 million
29.7%	70.3%	100.0%

Table 3 – Funding Source

Project funds will be used to complete the following elements, as described in the following table:

USE OF FUNDS			
Project Component	TIGER IV	Non-Federal	Capital Cost
Hike/Bike Facilities & Associated Improvements	\$2,715,693	\$1,149,062	\$3,864,755
Roadway and Intersection Improvements	\$7,230,070	\$3,056,275	\$10,286,345
Other Multi-Modal Improvements	\$54,237	\$24,663	\$78,900
Total Cost	\$10,000,000	\$4,230,000	\$14,230,000

Table 4 – Use of Funds

2 - PROJECT DESCRIPTION

The City of Temple (the City) is requesting \$10.0 million in TIGER IV funding as part of the \$14.23 million infrastructure improvements for Loop 363/Spur 290 and Hike/Bike Trail construction. The proposed infrastructure improvement is a multi-fold project involving the following scope:

- Construction of an at-grade intersection at Loop 363 and Spur 290;
- Improvements to access roads along Loop 363, which will also provide for an entrance off Loop 363 to the Temple College parking lot;
- Construction of roadway tying 1st Street (Spur 290) into 5th Street, to the south of Loop 363;
- Improvements to Avenue U from 1st Street (Spur 290) to 5th Street, as Phase I to the construction of new roadway connection within TMED;
- Extension of the hike and bike trails in Temple Medical and Education District (TMED) along Spur 290 to the north and connecting to and enhancing Friar's Creek Trail to the south of the proposed Loop 363 intersection;
- Installation of three bus shelters along Spur 290; and
- Construction of the entrance gateway to TMED and landscaping installation at the intersection of Loop 363 and Spur 290.

The proposed project will improve infrastructure that serves as a main entrance into the Temple Medical and Education District, described later in the Project Background section. The proposed project scope is depicted in Figure 1.



Figure 1 – Project Scope

These overall efforts will create a more-inclusive and integrated community development, which centers on improved and increased transportation options that encourage livability, connect housing to jobs, build a clean energy economy, reduce transportation costs, and provide safer conditions for pedestrians, bicyclists and motorists and accessibility.

Project Goals

- Improve access to downtown and the Temple Medical and Education District;
- Maintain access throughout the City of Temple and the region;
- Alleviate traffic congestion during the reconstruction of Interstate Highway 35, with Loop 363 and Spur 290 used as a detour;
- Introduce multi-modal transportation options from South Temple to Downtown, in conjunction with the Temple Trail's Master Plan;
- Enhance economic development opportunities within the region;
- Support sustainability by preserving quality of life; and
- Minimize project costs over the life-cycle of the project.

3 - PROJECT BACKGROUND/EXISTING CONDITIONS

The City of Temple is located in the heart of Central Texas, along a prominent rail and interstate corridor, between Dallas/Fort Worth, Austin and Houston, TX, the coined Texas Triangle. Temple is also located twenty-five miles east of the largest U.S. military installation; Fort Hood. The City was established in 1882 as a railroad town and began to develop in a concentric manner from the railroad station.

Today, the city continues to be prevalent in the railroad industry, serving freight and passenger trains, on a daily basis, including BNSF Railway, Union Pacific Railroad and Texas Eagle (Amtrak). However, with over seventy square miles of city land, growth has begun to decentralize and overlook established areas, promoting an increased reliance on single-passenger vehicular transportation. This action has led to the deterioration of older areas that still attract high healthcare employment and offer educational facilities, but do not present sufficient and affordable housing, amenities and adequate connection to other areas within the City.

The City is also highly influential in the healthcare sector that serves Texas and the southern United States. In 2009, the Milken Institute ranked the Killeen-Temple-Fort Hood Metropolitan Statistical Area as the second strongest performer among the 200 largest cities in the U.S. Temple is a major contributor to this effort with its overall strengths in industry, and healthcare and biosciences, which has become an increasingly dominant field.

Development of Temple Medical and Education District



Figure 2 – TMED Gateway

An area serving as a major contributor in the healthcare industry has been recently defined as the Temple Medical and Education District (TMED). Currently, the area is declining and suffers from lack of investment interests and community connection, making its future uncertain. If development around the major entities improves, through controlled gentrification, it is plausible that the area has an opportunity to capitalize and have great impact on emerging global trends, greatly benefiting the City of Temple and the surrounding region.

The proposed project focuses on the TMED area, located in Temple's urban core, which includes many entities that attract a regional draw, serves as a major employment center, and acts as a gateway to downtown. TMED is also strategically located along the City's loop, with easy access to IH-35 and connection to regional rail travel downtown. Even though many of the major stakeholders are doing well, surrounding residential and small businesses are struggling, though being in an optimal location within the City and high-use attractions. The struggling entities will hinder the success and future of the entire TMED area and connection to downtown.

In order to secure a healthy future for all, the City of Temple entered into a Letter of Understanding, in February of 2008, to develop the TMED Twenty-year Master Plan to promote and facilitate healthcare, educational learning, research and economic development among Scott and White Hospital, Central Texas Veteran Health Care System, Texas A&M Health Science Center College of Medicine, Temple College,



Figure 3 – Mixed-Use Vision for TMED

and Temple Health and Bioscience Economic Development District, to form the TMED Coordinating Group. Other entities involved in the rehabilitation process include Blackland Research and Extension Center, Temple Independent School District, Keep Temple Beautiful, Texas Department of Transportation, and Temple Economic Development Corporation. Providing an excellent means of collaboration between the partners, the purpose of the TMED Coordination Group is to develop a district that advances partnerships and services, promotes rehabilitation of declining residential and commercial areas, serves as a pilot project to eliminate development sprawl, and stimulates and ensures long term economic vitality of this critical area.

Over the past three-years a conceptual Framework Plan has been developed for TMED. This area has since extended to include the two-mile high-use connection corridor to downtown, which also serves as a high employment, retail center and offers rail and bus regional transportation connection options. Also added to the TMED area is the land encompassing the Blackland Research and Extension campus. The initial conceptual planning efforts also spurred the different stakeholders to create individual campus master plans. Therefore, with additional areas added and clearer defined campus plans, there is a need to have all plans align and develop cohesively to ensure optimal connection and efficiency within the district, which is developing under a New Urbanism Mixed-Use concept.

Currently there are approximately 45,000 vehicles that commute to or through the proposed project area each day, whether the final destination is within TMED or downtown. Many enter the area along First Street, Fifth Street or Avenue R. The district has a residential population of about 4,600 and includes 209 businesses with roughly 16,000 employees. It includes medical facilities that see on average 11,000 patients per day, a post-secondary school that enrolls about 6,000 per year and a primary school that enrolls approximately 600 and is adjacent to a City park. The downtown includes numerous places of employment, including City and County facilities, financial institutions, restaurants, retail stores, three City parks, as well as regional rail and bus transportation options. All of these facilities plan to increase in size or conduct several hundred million dollars in improvements over the next decade, increasing the number of employees, patients, students and residents using the area.



Existing Conditions

Loop 363, a state road, was built in Temple, to offer the community alternative options around IH-35. The Loop surrounds the City with intermittent areas not completed, including the proposed project area. The City of Temple and the Texas Department of Transportation have worked together over the past couple of decades to complete these gaps, in order to provide the community with a complete Loop, that will help provide a holistic transportation system. The intention is for Loop 363 to be a controlled access roadway, with frontage roads and overpasses or intersections.

The following figure (Figure 5) depicts the growth in the now Loop area from 1965 to 2010.



Source: Central Texas Council of Governments, 2010.

Figure 5 – Then (1965) and now (2010) Pictures of Loop 363 near project area

TxDOT views projects on Loop 363, an access arterial, as high priority. The department feels that the project will provide an economic impact for the community, eliminate or improve known safety deficiency, complete or improve and balance lanes on the State Highway System and improve existing pavement conditions (of which the pavement condition in this area is 51-70%).

TxDOT has begun improvement projects along IH-35, in response to the U.S. North/South Corridor along IH-35. The state department has committed funds to widen the highway to at least six-lanes from Dallas to San Antonio. The City of Temple is majorly impacted by these improvements, and the highway will be closed, have detours or have decreased access in at least one area of Temple for the next decade. The City and TxDOT view Loop 363 as the optimal detour for these improvements, therefore, the Loop needs to be completed before the onset of major construction along IH-35.

Spur 290, locally First Street, is a state road that runs through the center area of the City, including downtown and TMED. The road is designated as a major arterial. Spur 290 connects the northern part of the City and north IH-35 to the entire community. Spur 290 currently transitions from the local First Street onto Loop 363 and continues out of the City towards the east.

The project area does not currently connect to the Loop, like the surrounding Loop connections. It is unsafe and requires multiple merging occurrences in a short distance. This scenario increases the number of accidents, at high speeds. The unsafe and confusing connection has hindered reinvestment in the surrounding area, due to complex transportation issues, which includes the following:

- Difficult transition from highway speed to local traffic speed;

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- Dangerous merge conditions at each of the exits; and
 - Pedestrian safety issues.

This project will improve these conditions by providing an at-grade intersection, which will control speed and access. The investment in transportation will also leverage basic economic development opportunities in the emerging healthcare and bioscience industry, restore livability, increase safety and promote sustainability.

The Need for Safe and Improved Connectivity

Converting the existing Loop 363 access to Spur 290, to include an at-grade intersection, will improve the transition of traffic from Loop 363 to downtown, local roadways, local medical and educational facilities and reestablish a consistent street grid.

Nearly 45,000 vehicles pass along this area everyday and these vehicles interact with the large pedestrian populations using the medical and educational facilities that employ or educate nearly 16,000 employees. Spur 290 accounts for the most pedestrian/vehicular accidents within the City. The project's transportation improvements will serve as a significant part decreasing these unsafe interactions, while enhancing livability and promoting sustainable growth.

Currently, most of the traffic enters and exits along 5th Street, which runs parallel to Spur 290, because it has direct and easy access to Loop 363. This traffic is congested and negatively impacted by numerous driveways along 5th Street that do not allow for safe traffic flow in and out of the driveways and along the street. The project improvements will introduce pedestrian friendly and traffic calming devices to ease congestion and improve traffic flow. This aspect of the project will serve as a significant part of reducing traffic speed and enhance pedestrian safety.

The project will also expand multi-modal options by providing 10 foot to 12 foot hike/bike trails along the roadways, where sidewalks currently do not exist. This will provide for pedestrian friendly cross-town connection (approximately three-miles), to major destinations downtown and within the TMED area. This will also enforce direct connectivity among most of the City's major civic, educational and medical facilities.

Development of currently undeveloped land will further expand the residential population and employment within the corridor, creating additional demand for transportation services. Therefore, the proposed project will help to serve future conditions.

The objectives of this project are to accommodate roadway capacity, while still encouraging mode shift to transit, walking and biking. The project area will also be served by three bus shelters that provide connections to destinations throughout the City and Region.

The following figure depicts the increased connectivity that will be achieved through the proposed project.

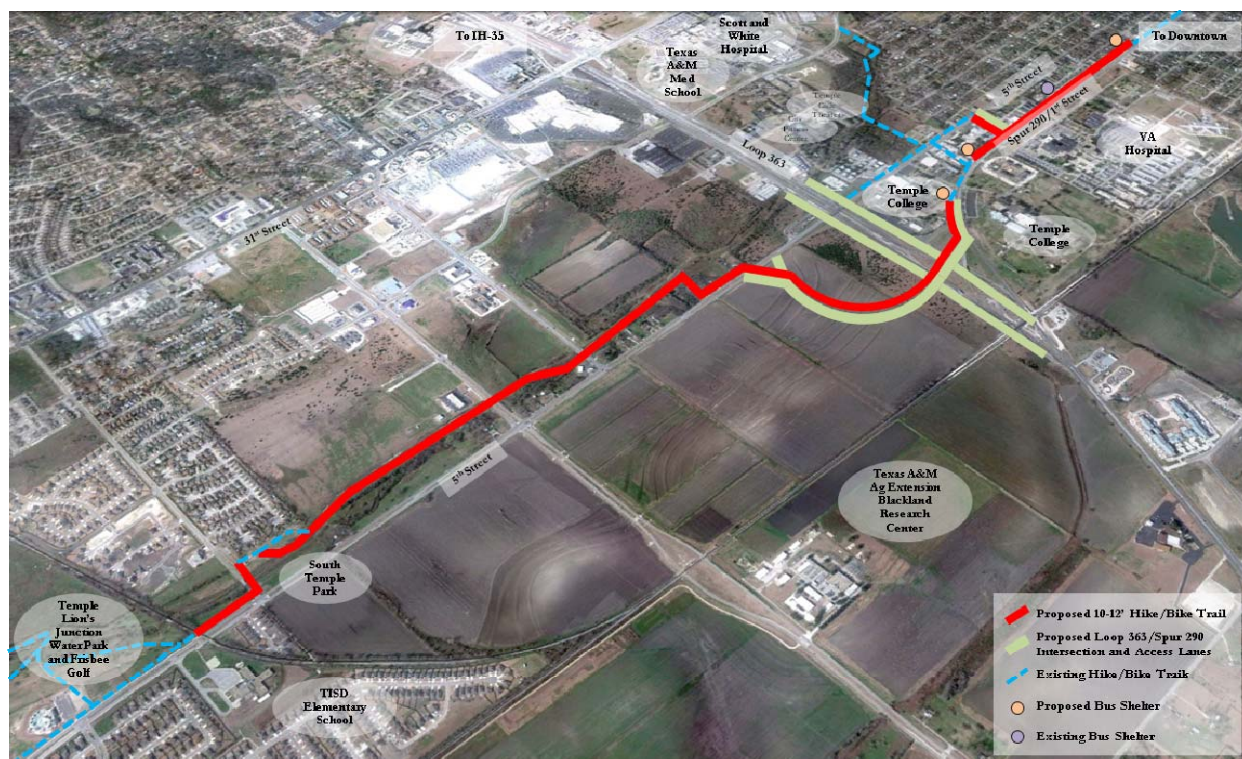


Figure 6 – Increase connectivity across the community due to infrastructure project

An Approach to Livable Communities with Sustainable Growth

The proposed project will establish development framework for the City's vision of new urbanism mixed-use development in the Temple Medical and Education District. The project will serve the area of the City with the highest employment and day-time population density, as well as surrounding neighborhoods with special populations. The project will also increase access to the surrounding region, through the improvement of multi-modal options, including improved bus shelters/stops.

A significant level of public and stakeholder outreach started in 2008, with the establishment of the TMED coordinating group. Stakeholder interviews and public forums are continuing throughout the project and beyond as the rest of the district is developed. When implemented, the project will connect the urban-fabric, improving access and livability for these populations and entities.

Encouraged by the need of sustainable growth, the proposed project improvements will reduce reliance on single-occupant vehicles, provide new and enhanced bicycle and pedestrian accessibility and provide opportunities for mixed-use development within the corridor. Within the corridor, there are multiple bus shelters, to include new ones with this project, all within approximately a half-mile walking distance. The project improvements will also spur new development within the pedestrian-friendly TMED area. All of these objectives support the City's and district's sustainable growth objectives.

The Critical Need for TIGER IV Funding

- Project infrastructure improvements are needed to spur a new urbanism mixed-use development in the district, which will allow for smart growth in commercial and residential

areas that are integral to the overall master plan concept of the Temple Medical and Education District.

- The project will enable development of currently undeveloped land, allowing adequate public infrastructure to be installed (through street access). Once underway the development of this land will create numerous construction jobs, provide future commercial jobs, increase the amount of affordable housing in the area and provide a short-term economic stimulus in an economically distressed area of the City. New jobs and affordable housing will also have a lasting impact on the national economy.
- Project infrastructure improvements will connect South Temple to Downtown (approximately a three-mile distance) offering multi-modal transportation options. This will have a lasting impact on the health of citizens, increase pedestrian safety and allow district users access to multiple destinations within the City.
- The project will improve Loop 363 enabling increase in vehicular traffic, due to construction on IH-35 and growing entities within TMED.

Project Partners and Grant Recipient

The City of Temple has partnered with the Texas Department of Transportation, as a financial supporter, as discussed earlier. The City of Temple will oversee the design and construction of the project, as the grant recipient. TxDOT will assist the City throughout the design and construction process, acting as a technical advisor.

The City has received unequivocal support for the project from many community leaders, regional agencies and state representatives including (see appendix for Letters of Support):

- The Honorable Senator Kaye Bailey Hutchison;
- The Honorable Representative John R. Carter;
- The Honorable State Senator Fraser;
- The Honorable State Representative Sheffield;
- Texas Department of Transportation;
- Killeen-Temple Metropolitan Planning Organization;
- Scott and White Hospital;
- Temple College;
- Temple Independent School District;
- Central Texas Housing Consortium;
- The HOP – Hill Country Transit District;
- Temple Health and Bioscience District;
- Keep Temple Beautiful;
- Temple Area Builders Association;
- Temple Parks Foundation;
- Temple Wellness Council;
- Scott and White Cycling Club;
- Baird, Crews, Schiller & Whitaker, P.C. Attorneys at Law;
- Drews Hunt Builders; and
- Wright Builders.

4 - SELECTION CRITERIA

Primary Selection Criteria

This section describes how the Loop 363 and Trail project meets the TIGER IV primary selection criteria by providing long term benefits, creating jobs, and generating economic stimulus.

Long Term Outcomes

There are five significant sources of long term benefits that will result from the Loop 363/Spur 290 and Hike/Bike Trail project.

- State of good repair;
- Economic competitiveness;
- Livability;
- Sustainability; and
- Safety.

The Benefit-Cost Analysis (page ##) quantified the project benefits based on the methodology recommended by U.S. DOT in the Federal Register (76 FR 50289).

Maintain a State of Good Repair

The proposed project will:

- Improve, redirect and expand the condition of existing transportation facilities; and
- Reduce life cycle costs for roadway and trail infrastructure.

Improve, redirect and expand the condition of existing transportation facilities

The project improvements will replace the existing Loop/Spur 290 access with an at-grade intersection and hike/bike trail connections. The current, poorly designed, Loop/Spur 290 access will be constructed as an intersection at Loop 363 and Spur 290. In addition, a newly constructed roadway, the southern part of the intersection, will connect Spur 290 to 5th Street, increasing access options to the Loop and downtown. With these projects new traffic signals and traffic calming devices will be installed. Furthermore, hike/bike trails will be extended to the North and South of the new intersection, to encourage multi-modal use across the City and within the TMED area.

Reduce life cycle costs for roadway and trail infrastructure

The proposed project will promote the use of non-motorized travel, resulting in cost savings on the maintenance of roadway infrastructure, due to minimized use. As described in the Benefit-Cost Analysis, the project is expected to result in a mode shift from 79.0 percent to 71.1 percent with the project and therefore will reduce reliance on automobiles. This is considered a conservative estimate of mode shift and the actual mode shift is expected to be far greater as the TMED area develops overtime.

Strengthen Economic Competitiveness

The proposed project will strengthen local and regional economic competitiveness and reinforce the City of Temple's position as a major contributor in the healthcare and bioscience fields.

The proposed project will:

- Increase land value;

-
- Increase short and long term employment benefits; and
 - Promote long term economic growth.

Increase land value

One of the primary economic benefits of the project, and the entire TMED project, is the increase in land value that will result from the development of currently undeveloped land. The land value is expected to increase from \$0 to \$3.37 per square foot, which would yield tax revenues and other economic benefits to the City. Once developed with commercial structures, the actual value of the land is expected to be \$10.49, including all improvements. It is estimated that the project could yield net tax revenues of \$270,000, to the City alone.

Increase short and long term employment benefits

The project will make possible the immediate development of currently undeveloped land. This site is expected to provide new jobs to the area during and after construction. The area will likely be occupied by medical related services that will continue to grow, produce advances in the emerging medical field and contribute to the United States role as a leader in the medical field. The area will also allure individuals and families to the area, by offering live-work areas within the City.

The project will also immediately offer jobs to the construction industry, as the needed design and construction of the infrastructure is developed. Finally, the project will support the expansion of Scott and White Hospital, Temple College and the Veterans Administration Hospital, as they all plan to grow and nearly double in size over the next decade.

Promote long term economic growth

The Loop/Trail project, as well as the development of the Temple Medical and Education District, contributes to the long term economic growth of the City and region by contributing to employment, improving residential conditions, increasing inter-disciplinary opportunities and strengthening the City of Temple's position as a center for healthcare and bioscience.

Scott and White Hospital, one of the top 100 hospitals in the nation, is the City's leading employer with a workforce of over 7,000. The hospital has begun expanding, which will generate more employment in the area. Another top City employer, the Veterans Administration Hospital employs over 3,100 and is located in the TMED district, along Spur 290. The VA Hospital is undergoing a 2.0 million square foot expansion over the next decade, more than doubling the size of its facilities.

The TMED area is a mixed-use area, which will provide new and old employees at these entities a place to work and live. It will also allow for more affordable options for the more than 6,000 students attending Temple College and those enrolled in Texas A&M and Temple College medical and nursing schools, who also work at the area teaching hospitals (both Scott and White Hospital and Veterans Administration Hospital).

In 2009, the Milken Institute ranked the Killeen-Temple-Fort Hood Metropolitan Statistical Area as the second strongest performer among the 200 largest cities in the U.S. Temple is a major contributor to this effort with its overall strengths in healthcare and biosciences, which has become an increasingly dominant field.

Enhance Livability

A substantial portion of the City's population will benefit from the proposed project improvements through increased mobility, improved multi-modal choices, and amenities such as streetscaping that will enhance and connect multiple neighborhoods.

The proposed project will:

- Increase access to affordable and convenient transportation; and
- Rebuild street grid and connect different neighborhoods across the community.

Increase access to affordable and convenient transportation

Since the development of Loop 363, the downtown, central core of Temple, has been divided from development in South Temple. The proposed project will reconnect the areas through the new, grid aligned intersection and multi-modal trails. This will increase access to affordable and convenient transportation, including transit, walking and biking.

More and more residents across the nation, and within the region, desire to live closer to work and this contributes to the sustainable nature of the TMED development. Creating a walkable City district reduces congestion, encourages multi-modal and intermodal connectivity, and greatly enhances the quality of life.

Rebuild street grid and connect different neighborhoods across the community

The roadway access to be redeveloped in this project can be defined as an incoherent access point that constricts both vehicular and pedestrian movement. As shown in Figure 2, connectivity will be reinforced and re-established within the project area and will extend to the adjacent downtown, South Temple and TMED area. The project will spur the development of land within the project area, restore a division in the urban fabric, establish cross-town connections and connect neighborhoods with the City's major civil, medical, cultural and educational facilities.

Promote Sustainability

The project will contribute to reduced greenhouse gas emissions and energy independence, consistent with the City's Sustainability and Energy Efficiency Policy.

The proposed project will:

- Reduce congestion to improve air quality; and
- Encourage a mode shift to non-motorized transportation.

Reduce congestion to improve air quality

The City has a Sustainability Department, which is responsible for implementing the Sustainable Management Plan, through the monitoring of energy use within City facilities, evaluating efficient City purchases, educating the public on the broad topics of sustainability and proposing and executing sustainable Capital Improvement Projects. The City has made efforts to become more sustainable in multiple areas, including the following projects: upgrading City facility lighting, replacing roadway lighting with LED and converting City vehicles to bi-fuel with the use of propane autogas, among others.

Consistent with the City's sustainable efforts the proposed roadway and trail improvements will not contribute to the decrease in air quality. The improvements are expected to increase the air quality, given the expected modal shift, even though trips will be added over time.

Encourage a mode shift to non-motorized transportation

The project improvements, to include changes in development patterns, the provision of bus shelters and the inclusion of hike/bike trails along roadways will encourage a mode shift to non-motorized transportation. It is estimated that the project improvements will result in a shift from 79 percent single occupancy vehicles to 71.1 percent. By enhancing safe pedestrian and bicycle mobility, the project is expected to boost the number of commuters choosing non-motorized transportation or alternative transportation.

Enhance Safety

Due to a high number of accidents within this area, compared to the rest of the City, the need for roadway improvements and pedestrian friendly facilities is of great importance to the City and the Texas Department of Transportation. As the TMED area continues to be a major development district, accidents are expected to increase, unless safety issues are addressed.

The proposed project will:

- Reduce the number of accidents by improving traffic patterns and reconfiguring difficult merging lanes; and
- Improving pedestrian/bicycling facilities.

Reduce the number of accidents by improving traffic patterns and reconfiguring difficult merges

In the current condition the Loop 363/Spur 290 connection transitions abruptly to local streets and driveways. Also, district-users walk and bike in the area, although no facilities are provided. This has accounted for three or more fatalities per year within this area and more than fifty crashes with injuries per year. The proposed project will make physical changes to the Loop 363/Spur 290 transition, to a signalized intersection which will reduce approach and travel speeds within the area. Trails (10' to 12' wide) will also provide facilities for all pedestrians and bicyclist, greatly increasing pedestrian access.

Safety improvements include the redesign of the entire transition from Loop 363 to Spur 290. These improvements will integrate bicycle lanes and pedestrian facilities that will extend beyond the proposed intersection. Traffic calming measures to reduce vehicle speeds and increase driver attentiveness include wider sidewalks and crosswalks and improved traffic signals. These improvements are expected to reduce the number and severity of accidents, as well as pedestrian and vehicular interaction.

Improve pedestrian/bicycling facilities

The pedestrian/bicycling facilities will be consistent with the Temple Medical and Education District design guidelines. The guidelines call for connectivity between destinations and travel modes, with widened sidewalks, enhanced crosswalks and pedestrian refuges, surface treatments and pavement markings, raised medians, improved bus stop placement and shelters, traffic calming measures, and dedicated bicycle areas.

Criteria	Benefit
State of Good Repair	<ul style="list-style-type: none"> • Improve, redirect and expand the condition of existing transportation facilities • Reduce life cycle costs for roadway and trail infrastructure
Economic Competitiveness	<ul style="list-style-type: none"> • Increase land value • Increase short and long term employment benefits • Promote long term economic growth
Livability	<ul style="list-style-type: none"> • Increase access to affordable and convenient transportation • Rebuild street grid and connect different neighborhoods across the community
Sustainability	<ul style="list-style-type: none"> • Reduce congestion to improve air quality • Encourage a mode shift to non-motorized transportation
Safety	<ul style="list-style-type: none"> • Reduce the number of accidents by improving traffic patterns and reconfiguring difficult merging lanes • Improving pedestrian/bicycling facilities

Table 5 – Benefits

Job Creation and Economic Stimulus

Completing the proposed infrastructure project will make possible the development of currently undeveloped land. The project will also increase the economic value of the area, to include residential parcels. Finally, the project will provide for opportunities to locally economic disadvantaged workers.

The proposed project will:

- Promote short and long term creation of jobs;
- Promote long term economic growth; and
- Create opportunities for low-income and disadvantaged workers.

Promote short and long term creation of jobs

The development that will be spurred by the completion of this project, due to increased access, will create jobs at all skill levels. Short term construction activities will also generate jobs, to not only complete the construction of the roadway and trail infrastructure, but to also construct new commercial and residential development. The increase in employment is expected to be in new jobs and new companies, not jobs shifted from other locations.

Promote long term economic growth

The development of newly accessible property within the Temple Medical and Education District will open up opportunities to expand and strengthen the City of Temple's position as a center for healthcare and bioscience.

Create opportunities for low-income and disadvantaged workers

The City of Temple is a federally designated Community Development Block Grant community and the project area is part of the state designated Enterprise Zone and Reinvestment Zone. As reported in the section on Economically Distressed Areas, the TMED area encompasses nine of the twenty-two areas of low-income concentration. Sixty-five percent of the area residents live at or below eighty percent of the national per capita income average. The proposed project will spur commercial development that will promote the creation of job opportunities for these areas, assisting low-income and disadvantaged workers.

Secondary Selection Criteria

Innovation

The construction of an at-grade intersection at Loop 363 and Spur 290, as well as the extension and connection of hike/bike trails, are an innovative way to address the safety, livability and economic development needs of the community, all in one project. The project demonstrates how efficiencies can be gained through the use of fully integrated, demand responsive transportation systems to reduce travel speed and still accommodate the needs of a developing and ever-changing medical and education district.

Partnership

As stated previously, non-federal funding for this project is aggregated from two sources and totals \$4.23 million. This represents 29.7 percent of the project budget.

The City of Temple is acting as the main applicant and will serve as the project manager. The City is committing \$2.115 million in local funding toward the project. This contribution is equally matched by the Texas Department of Transportation. As the City and state collaborate on a host of projects, including roadways and trails, the level of commitment to this project signifies its importance from a transportation and economic development perspective.

Outside of this project, the City is coordinating with the previously discussed Temple Medical and Education District coordinating group. This group includes representatives from all major entities within the district, and the community-at-large. Through this group focus has been directed to the area surrounding these entities, now termed the TMED area. This group involves the development of all areas impacted by the district and mainly encourages inter-disciplinary work and living environments.

Disciplinary Integration

One of the primary objectives of the Temple Medical and Education District is to restore the area, increase livability, spur economic development, and improve access to multiple disciplines. The project has engaged citizens and will continue to engage others in stakeholder interviews and public meetings. Non-transportation public agencies will be invited to participate in these sessions which will provide input to the design team.

5 - BENEFIT-COST ANALYSIS REVIEW

A Benefit-Cost Analysis was conducted for the Loop 363/Spur 290 and Hike and Bike Trail improvements as of October 2011. The analysis was conducted in accordance with the benefit-cost methodology recommended by the U.S. DOT in the Federal Register (76 FR 50289). The full Benefit-Cost Analysis is provided in the appendix.

The Benefit-Cost Analysis (BCA) performed for the proposed project included several assumptions. The BCA reflects the difference between two different scenarios, build and no-build.

Build Scenario:

- Best-case option; and
- Assumes the City will perform all needed roadway and trail improvements, with the assistance of TIGER IV funds.

No-build Scenario:

- Worst-case option;
- Assumes the City will not improve the current systems;
- Operations and maintenance will continue with current practices; and

Benefits:Costs Ratio – 5.3:1

The analysis shows that the anticipated quantifiable benefits from the proposed project exceed their anticipated costs by a ratio of 5.3:1. With a seven-percent discount rate, the proposed investments yield a net present value of \$53.9 million, which provides an economic rate of return of 41.1%. The travel impacts of the project indicate a dramatic decrease in auto vehicle miles travelled per year (-11.5 million VMT/year), and comparable increase in transit (+87,900 million trips/year), walking (+251,200 trips/year), and biking (710,000 trips/year). It is important to note that this analysis does not include all of the potential benefits that roadway and trail investments will contribute to the region, which would further increase the benefits in relation to the costs. The value of providing a new roadway and trail will spur economic development and reduce auto dependence. This improves the quality of life for residents and allows for continued economic growth of the region and the Temple Medical and Education District.

Key elements of the Benefit-Cost Analysis are summarized below:

State of Good Repair

- **Life Cycle Cost Savings:** The proposed project produces life cycle cost savings because there are annual operations and maintenance cost savings associated with the improvements and extensions of the roadway and trails.
- **Reduction in Pavement Damage:** Since the proposed project is expected to cause a net reduction in vehicle miles traveled (VMT), pavement damage caused by automobiles traveling on the roadway will be reduced. Overall, roadway system will remain in better repair.

Economic Competitiveness

- **Land Value Increases:** In its existing state, the proposed development for retail/mixed-use areas currently has an economic value to society of \$0 per square foot. The increase in the value of the development was estimated based on ten comparable appraisals in 2011 tax dollars. According to this analysis, the average price of land was \$3.37 per square foot.
- **Reductions in Vehicle Operating Costs:** The proposed project investments would reduce vehicle operating and ownership costs because the changes in the infrastructure and subsequent development would reduce single-occupancy vehicle travel.

Livability Benefits

- **Active Life Benefits:** The proposed project is expected to change the modal split by increasing the number of walking and biking trips. The modal split changes are expected as a result of changes in development patterns and benefits expected from improved walking and biking infrastructure. Individual and societal benefits are associated with increased physical activity. For individuals, increases in physical activity are linked to improved health. Societal benefits include reduced costs of subsidized medical care, emergency room visits, and marginal reductions in health insurance rates.
- **Noise Pollution:** Reductions in VMT will create a more livable environment by creating reductions in noise pollution.

Environmental Sustainability Benefits

- The proposed project improvements will create environmental and sustainability benefits by reducing air and noise pollution associated with automobile travel. Six emissions were identified for which benefits were measured and monetized: carbon monoxide, nitrous oxide, particulate matter, sulfur oxide, volatile organic compounds, and carbon dioxide.

Safety Benefits

- **Accident Cost Savings:** Reductions in Vehicle Miles Traveled (VMT) lower the incidence of traffic accidents. The cost savings from reducing the number of accidents include direct savings (e.g. reduced personal medical expenses, lost wages, and lower individual insurance premiums) as well as significant avoidance costs to society (e.g. second party medical and litigation fees, emergency response costs, incident congestion costs, and litigation costs).

Costs

The Benefit-Cost Analysis uses project costs that have been estimated for the proposed project on an annual basis. All costs were expressed in real 2011 dollars.

- **Capital Costs:** Initial project investment includes engineering and design, construction, acquisition of right-of-way, other capital investments, and contingency factors. These include costs beginning in 2012 and ending in 2014. The facility will be operation in the 4th quarter of 2014.
- **Operations and Maintenance Costs:** The annual costs of operating and maintaining the proposed project were included in this analysis. These O&M costs were compared against existing infrastructure, and the “net costs” were calculated and used for the benefit-cost analysis.

Net Present Value (2011 \$) for 2018-2055

Discount Rate 7.00%

Total Benefits \$ 66,383,710

Total Costs \$ 12,457,019

Net Present Value \$ 53,926,691

Economic Rate of Return 41.1%

Benefit-Cost Ratio 5.3

State of Good Repair	Unit	Benefit
Reduced Pavement Damage	2011 \$ NPV	\$ 1,365,427
Life Cycle Cost Savings (O&M)	2011 \$ NPV	\$ 1,241,870
Total		\$ 2,607,297

Economic Competitiveness	Unit	Benefit
Land Value Increases	2011 \$ NPV	\$ 12,556,292
Reduced Passenger O&M Costs - Fuel		\$ 14,485,377
Reduced Passenger O&M Costs - Non-Fuel		\$ 18,363,094
Oil Import Cost Savings	2011 \$ NPV	\$ 1,189,892
Total		\$ 46,594,655

Livability Benefits	Unit	Benefit
Cycling Health Benefits	2011 \$ NPV	\$ 2,600,154
Walking Health Benefits	2011 \$ NPV	\$ 1,163,082
Noise Reduction Benefits	2011 \$ NPV	\$ 100,896
Total		\$ 3,864,132

Environmental Sustainability Benefits	Unit	Benefit
Carbon Monoxide Savings	2011 \$ NPV	\$ -
Nitrous Oxide Savings	2011 \$ NPV	\$ 141,083
Particulate Matter Savings	2011 \$ NPV	\$ 711,116
Sulfur Dioxide Savings	2011 \$ NPV	\$ 7,909
Volatile Organic Compound Savings	2011 \$ NPV	\$ 51,293
Carbon Dioxide Savings	2011 \$ NPV	\$ 1,565,837
Total		\$ 2,477,238

Safety Benefits	Unit	Benefit
Fatality Reductions	2011 \$ NPV	\$ 7,506,356
Injury Reductions	2011 \$ NPV	\$ 3,027,981
Property Damage Reductions	2011 \$ NPV	\$ 306,051
Total		\$ 10,840,388

Capital Costs	Unit	Cost
Construction	2011 \$ NPV	\$ 9,649,308
Design	2011 \$ NPV	\$ 1,478,254
Minor Items / Contingency	2011 \$ NPV	\$ 904,568
Other Soft Costs	2011 \$ NPV	\$ 10,442
Other Costs	2011 \$ NPV	\$ 414,447
Total		\$ 12,457,019

Other Costs	Unit	Cost
Operations & Maintenance (inc. in life cycle cost benefits)		\$ -
Total		\$ -

Table 6 – Benefit-Cost Analysis Summary

Category	Cumulative (2012-2054)	Change per year
Auto Vehicle Miles Traveled	-458.6 million VMT	-11.5 million VMT/year
Transit Passenger Trips	3.5 million trips	87,900 trips/year
Walking Trips	10.0 million trips	251,200 trips/year
Bicycling Trips	28.4 million trips	710,200 trips/year
Walking Miles	10.0 million person-miles	251,200 person-miles/year
Bicycling Miles	56.9 million person-miles	1.4 person-miles/year

Table 7 – Modal shift impacts on miles traveled

6 – PROJECT READINESS

Environmental Approvals

The National Environmental Policy Act (NEPA) process for the proposed Loop and Trail projects is substantially complete. The area impacted by Loop 363 and Spur 290 improvements has been completed. The original review was approved August 28, 2003, completed by the Texas Department of Transportation (TxDOT). The original clearance was renewed on July 26, 2011, under TxDOT supervision.

The City of Temple is seeking Categorical Exclusion for the Trail projects, which will document that the project will not significantly impact the natural or built environment. This process is being completed at this time, to be submitted for review before April 2013.

No further environmental approvals are required for the Loop and Trail projects.

Legislative Approval

The Loop project is currently pending for legislative approval, upon secured funding identification. The Loop project is currently on the 25 year Metropolitan Transportation Plan and is slated to be added to the Four-year transportation Improvement Program, once complete funding is secured. The Killeen-Temple Metropolitan Planning Organization is prepared to assist the City in securing this approval within two-months from securing funding. A letter from the Killeen-Temple Metropolitan Planning Organization is included in this application stating these intentions.

State and Local Planning

The overall Loop and Trail projects are separately referenced in local, regional and state plans, as high impact projects. The projects are consistent with the following plans:

- Killeen-Temple Metropolitan Planning Organization 25-year Metropolitan Transportation Plan, 2009
- Killeen-Temple Metropolitan Planning Organization Regional Thoroughfare and Pedestrian/Bicycle Plan, 2011
- City of Temple Comprehensive Master Plan, 2008
- City of Temple Trails Master Plan, 2010
- City of Temple Medical and Education District Plan, 2010

Technical Feasibility

As the schedule below shows, the entire project is on schedule and continues to advance to an overall completion date of June 2015. However, subsequent areas of the project will open sooner, as they are completed and available for public use. Structural, civil, traffic engineering and planning reviews are being completed for technical feasibility, in conjunction with Texas Department of Transportation specifications.

Schedule

- Preliminary Design Phase – Ongoing, to be completed 3rd Quarter 2012
- Funding (TIGER IV) – Obtained 2nd Quarter 2012
- Final Design Phase (to include utility coordination, as needed) – Begin 3rd Quarter 2012 to end 2nd Quarter 2013
- Bidding Phase – Execute, Secure and Obligate all funding 2nd Quarter 2013
- Construction/Construction Administration Phase – Begins 2nd Quarter 2013 to end 2nd Quarter 2015
- Infrastructure Complete – 2nd Quarter 2015

PROJECT PHASE	MONTH																																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
Preliminary Design Phase																																							
Final Design Phase																																							
Bidding Phase																																							
Construction Administration Phase																																							
Construction Phase																																							

Table 8 – Project schedule

Financial Feasibility

A total of \$14.23 million is required to complete the infrastructure for the road and trail improvements. The requested TIGER IV Grant funding of \$10 million is matched by a \$4.23 million (29.7%) non-federal contribution. In addition, the project demonstrates a substantial positive benefit/cost ratio, as described in the Benefit/Cost Analysis.

7 - ECONOMICALLY DISTRESSED AREA

All of the area within the project study area, except that owned by major stakeholders, is in poor economic condition, which is hindering desired development. The parameters of the entire project include many areas found to be economically distressed. Within the city of Temple there are twenty-two areas of low-income concentration, as determined in the 2000 Census; nine of these Census tracts are within or directly adjacent to and impacted by TMED. Sixty-five percent of the area residents live at or below eighty percent of the national per capita income average.

Furthermore, the local middle school participates in a free or reduced lunch program, of which seventy-six percent of the students are participants. This program assists those who would not otherwise be able to pay for or have the means to bring their lunch. The area also includes two public housing developments.

The area housing units are sixty-one percent occupied by renters, with fifteen percent of all units vacant, according to the 2000 Census, which has most likely increased over the past decade. With high rental rates and a number of houses vacant, there is a lack of upkeep and maintenance, leading to approximately 1,450 code violations in 2009.

The project study area also includes many abandoned buildings, including an old nursing home, bars, apartments, and commercial offices. Other businesses and buildings within TMED suffer from the deteriorating condition of these facilities. To improve occupied facilities, Temple, in conjunction with Keep Temple Beautiful, currently offers a redevelopment and incentive program along First Street, under the Strategic Investment Zone initiatives, with a vision to facilitate new public and private sector investments. This program assists interested parties in façade, sign, sidewalk and landscaping improvements, asbestos survey or abatement projects and demolition in an effort to beautify the area, bring buildings up to minimum code and develop a cohesive district. Currently five projects have been completed and have aesthetically improved their site and surrounding area.

8 - FEDERAL WAGE RATE CERTIFICATE

The City of Temple has signed a federal wage rate certification stating that they will comply with Subchapter IV of Chapter 31 of Title 40 of the United States Code.




October 21, 2011

The Honorable Ray LaHood
Secretary, US Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Secretary LaHood:

As requested in the US Department of Transportation's National Infrastructure Grant Program (TIGER III) application guidelines, I hereby certify that the City of Temple, Texas will fully comply with the Federal Wage Rate Requirements as stated in Subchapter IV of Chapter 31 of Title 40 in the United States Code. Temple will also comply with all other requirements that are associated with the American Recovery and Reinvestment Act of 2009.


David Blackburn
City Manager

10/22/2011
Date


Traci Barnard
Director of Finance

10.27.2011
Date